

Claims:

1. An emulsified water-blended fuel composition comprising:

- (A) about 50% to about 99% by weight of a hydrocarbon fuel;

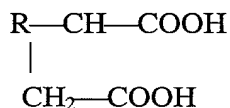
- (B) about 1% to about 50% by weight of water;

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 - (C) about 0.1% to about 10% of a minor emulsifying amount of at least one fuel-soluble salt comprised of (I) a first acylating agent, said first acylating agent having at least one hydrocarbyl substituent of about 20 to 500 carbon atoms and a molecular weight (Mn) in the range of about 500 Mn to 10,000 Mn, (II) a second acylating agent, said second acylating agent selected from the group consisting of monocarboxylic agents, polycarboxylic agents, dicarboxylic agents and combinations thereof; and wherein said second acylating agent has at least 1 hydrocarbyl substituent of up to about 35 carbon atoms and reacting said carboxylic acylating agents (I) and (II) with (III) an ammonia or an amine to form a salt;
 - (D) about 0.001% to about 15% by weight of the water-soluble salt distinct from component (C).

2. The composition of claim 1 wherein (C)(I) is a polycarboxylic acid and (C)(II) is a monocarboxylic acid.

3. The composition of claim 1 wherein (C)(II) is a monocarboxylic acid.

4. The composition of claim 1 wherein the first acylating agent is a hydrocarbyl-substituted succinic acid represented by the formula



wherein R is a hydrocarbyl group of about 30 to about 500 carbon atoms.

5. The composition of claim 2 wherein the monocarboxylic acid is a fatty acid and the polycarboxylic acid is a polyisobutylene-substituted succinic acid.

6. The composition of claim 1 wherein the first acylating agent has a molecular weight in the range of about 1000 Mn to about 5000 Mn.

7. The composition of claim 1 wherein the monocarboxylic agent comprises oleic acid, isostearic acid, palmitic acid, stearic acid, linoleic acid, arachidic acid, tall oil fatty acids, gadoleic acid, behenic acid, erucic acid, ligoceric acid or combinations thereof.

8. The composition of claim 1 wherein the first acylating agent component (C)(I) is selected from the group comprising a polyisobutene substitute succinic acid and the second acylating agent, component (C)(II) is selected from the group consisting of oleic acid, isostearic acid, palmitic acid, stearic acid, linoleic acid, tall oil fatty acids, arachidic acid, gadoleic acid, behenic acid, erucic acid, ligoceric acid and combinations thereof.

9. The composition of claim 1 wherein the ratio of (C)(I) to (C)(II) in the water-blended fuel composition is in the range of about 9 to about 1 to about 1 to about 9.

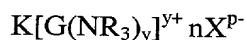
10. The composition of claim 1 wherein the ratio of (C)(I) to (C)(II) in the water-blended fuel composition is in the range of about 1 to about 3 to about 3 to about 1.

11. The composition of claim 1 wherein the product of the reaction between acylating agents (C)(I) and (C)(II) with the ammonia or the amine are carboxylate salts and combinations thereof.

12. The composition of claim 11 wherein the acylating agents (C)(I) and (C)(II) are carboxylic acids.

13. The composition of claim 1 wherein (C)(III) is selected from the group comprising monoamines, polyamines, hydroxyamines and combinations thereof.

14. The composition of claim 1 wherein (D) is represented by the formula



and wherein g is hydrogen, or an organic neutral radical of 1 to about 8 carbon atoms having a valence of y; each R independently is hydrogen or a hydrocarbyl group of 1 to about 10

carbon atoms; X^{p-} is an anion having a valence of p ; and k , y , n and p are independently at least 1, provided that when G is H , y is 1; and further provided that the sum of the positive charge ky^+ is equal to the sum of the negative charge np^- such that the amine salt is electrically neutral.

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15. The composition of claim 1 wherein component (D) comprises ammonium nitrate, ammonium acetate, methylammonium nitrate, methyl ammonium acetate, ethylene diamine diacetate, urea nitrate, guanidium nitrate or combinations thereof.

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16. The composition of claim 1 wherein component (D) is ammonium nitrate.

17. The composition of claim 1 further comprises at least one organic cetane improver.

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18. The composition of claim 1 further comprises at least one antifreeze.

19. The composition of claim 1 further comprises at least one alcohol selected from the group consisting of methanol, ethanol, ethylene glycol, propylene glycol, glycerol and combinations thereof.

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20. The composition of claim 1 further comprises an additional emulsifier comprising an ionic or nonionic compound having a hydrophilic lipophilic balance in the range of about 1 to about 40.

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21. The composition of claim 1 wherein the hydrocarbon fuel is selected from the group consisting of gasoline; diesel; gasoline and ethanol; diesel fuel and ether; gasoline and a biodegradable resource; diesel fuel and a biodegradable resource; biodegradable fuels; renewable resources; and combinations thereof.

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22. The composition of claim 21 wherein the hydrocarbon fuel is selected from the group consisting of a biodegradable resource, a biodegradable fuel, a renewable resource and

combinations thereof in the range from about 0.1% to about 10% of the hydrocarbon fuel.

23. The composition of claim 21 wherein the hydrocarbon fuel is selected from the group consisting of a biodegradable resource, a biodegradable fuel, a renewable resource and combinations thereof in the range from about 2% to about 20% of the hydrocarbon fuel.

24. The composition of claim 1 wherein the hydrocarbon fuel is selected from the group consisting of a biodegradable resource, a biodegradable fuel, a renewable resource and combinations thereof in the range from about 20% to about 100% of the hydrocarbon fuel.

25. A process for fueling an internal combustion engine comprising fueling the engine with the fuel composition of claim 1.